



## ACUTE SEVERE HEPATITIS IN YOUNG CHILDREN Updated Call for Cases

Date: May 12, 2022

**Public Health Message Type:**  Alert  Advisory  Update  Information

**Intended Audience:**  All public health partners  Healthcare providers  Infection preventionists  
 Local health departments  Schools/childcare centers  ACOs  
 Animal health professionals  Other:

### Key Points or Updates:

- (1) As of May 5, 2022, CDC and state partners are investigating 109 children with hepatitis of unknown origin across 25 states and territories. A possible association between pediatric hepatitis and adenovirus infection is under investigation.
- (2) The New Jersey Department of Health (NJDOH) Communicable Disease Service (CDS) is working with CDC to ascertain if similar illnesses have been detected in New Jersey.
- (3) This message is an update to the LINCS message issued on 4/22/22 and includes updated epidemiologic information and testing recommendations since that posting.

### Action Items:

1. In addition to workup for common causes of hepatitis (viral testing for hepatitis A,B,C,E), healthcare providers should consider testing for adenovirus using NAAT (e.g. PCR) of respiratory specimens, blood, stool, and rectal swabs.
2. NJDOH requests that healthcare providers report suspected cases of hepatitis of unknown etiology to NJDOH, specifically:
  - a. Children <10 years of age with elevated aspartate aminotransferase (AST) or alanine aminotransferase (ALT) (>500 U/L) who have an unknown etiology for their hepatitis (with or without any adenovirus testing results, independent of the results) since October 1, 2021.
3. Cases should be reported to NJDOH via a secure online portal:  
<http://healthsurveys.nj.gov/NoviSurvey/n/zz36l.aspx>
4. NJDOH will carefully review reports received via the above online portal, create cases and link them to E-2022-23125 in CDRSS
5. NJDOH will help coordinate additional testing for individuals who meet the above case definition and test positive for adenovirus.

### Contact Information:

- Reed Magleby, MD at [reed.magleby@doh.nj.gov](mailto:reed.magleby@doh.nj.gov) , or
- The Communicable Disease Service at (609) 826-5964 during regular business hours

## References and Resources:

- <https://emergency.cdc.gov/han/2022/han00465.asp> Apr 28, 2022
  - <https://www.ecdc.europa.eu/en/news-events/epidemiological-update-hepatitis-unknown-aetiology-children> May 11, 2022
  - [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1073704/acute-hepatitis-technical-briefing-2.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1073704/acute-hepatitis-technical-briefing-2.pdf)
  - <https://www.alabamapublichealth.gov/blog/2022/04/nr15.html> Apr 15, 2022
  - [https://www.nj.gov/health/cd/topics/hepatitis\\_viral.shtml](https://www.nj.gov/health/cd/topics/hepatitis_viral.shtml)
  - NJDOH Reporting Portal: <http://healthsurveys.nj.gov/NoviSurvey/n/zz36l.aspx>
  - <https://www.cdc.gov/adenovirus/about/prevention-treatment.html>
- 

## Background:

On April 21, 2022, the Centers for Disease Control and Prevention (CDC) and the Alabama Department of Public Health announced an investigation of nine cases of severe acute hepatitis of unknown cause in otherwise healthy young children in Alabama and issued a call for additional cases from other jurisdictions. These nine cases occurred since October 2021 and ranged from 1–6 years in age. The children presented with symptoms of gastrointestinal illness and varying degrees of liver injury, with two requiring liver transplantation. None of the cases were found to be infected with hepatitis A, B, C, or E, and all cases were subsequently found to be infected with adenovirus. None of the children had underlying health conditions of note and none had COVID-19. Since that time, CDC has received reports of 109 children with hepatitis of unknown origin across 25 states and territories, more than half of whom have tested positive for adenovirus with more than 90% hospitalized, 14% with liver transplants, and five deaths under investigation.

In addition, the European Centre for Disease Prevention and Control (ECDC) is investigating reports of 105 cases of acute hepatitis of unknown cause in 13 EU/EEA countries and the United Kingdom (where approximately 163 cases are currently under investigation). In the UK, 126 cases have been tested for adenovirus of which 91 had adenovirus detected (72%). Subtyping of 18 cases from the UK investigation found that these were all type 41F.

Adenoviruses are DNA viruses that spread by close personal contact, respiratory droplets, and contact with high-touch surfaces. Adenoviruses most commonly cause respiratory illnesses that can range from common cold to pneumonia, croup and bronchitis. Depending on the type they can also cause gastroenteritis, conjunctivitis, cystitis or less commonly neurological disease. There is no specific treatment for adenovirus or. Adenovirus 41 can cause acute gastroenteritis in children, but rarely causes severe disease except for among those with weakened immune symptoms. Hepatitis is rare among otherwise healthy children who are infected with any type of adenovirus.

## Case Reporting and Testing:

### *Case Definition:*

Children <10 years of age with elevated aspartate aminotransferase (AST) or alanine aminotransferase (ALT) (>500 U/L) who have an unknown etiology for their hepatitis (with or without any adenovirus testing results, independent of the results) since October 1, 2021.

Providers who encounter any individuals who meet the above case definition should report these cases to NJDOH via secure online portal: <http://healthsurveys.nj.gov/NoviSurvey/n/zz36l.aspx>

In addition to workup for common causes of hepatitis (viral testing for hepatitis A,B,C,E) providers should consider testing for adenovirus using the following samples:

- NAAT (e.g. PCR) of blood (whole blood, plasma or serum); whole blood is preferred to plasma and serum.
- Respiratory specimen (nasopharyngeal swab, sputum, or bronchioalveolar lavage [BAL])
- Stool specimen or rectal swab; a stool specimen is preferred to a rectal swab
- Liver tissue, if a biopsy was clinically indicated, or if tissue from native liver explant or autopsy is available:
  - Formalin-fixed, paraffin embedded (FFPE) liver tissue
  - Fresh liver tissue, frozen on dry ice or liquid nitrogen immediately or as soon as possible, and stored at  $\leq -70^{\circ}\text{C}$

Providers with questions about laboratory testing for adenovirus may contact NJDOH CDS 609-826-5964 during business hours. NJDOH will help coordinate additional testing for individuals who test positive for adenovirus.

#### **Preventive Measures:**

Children who are sick with gastrointestinal illness should:

- Stay home
- Cough and sneeze into a tissue or upper shirt sleeve, not their hands.
- Avoid sharing cups and eating utensils with others.
- Refrain from kissing others.
- Wash hands often with soap and water for at least 20 seconds, especially after using the bathroom.

Frequent handwashing is especially important in childcare settings and healthcare facilities. Additionally, adenoviruses are resistant to many common disinfectants and can remain infectious for long periods on environmental surfaces and medical instruments. To prevent spread of adenoviruses EPA-registered disinfectants effective at killing adenoviruses and compatible with the surfaces and equipment should be used.